Technical Disclosure Commons

Defensive Publications Series

October 26, 2017

AUTOMATIC POWER ADJUSTMENT TO ENERGY SUPPLY

Daniel Hoppe
Bertrandt Ingenieurbüro GmbH

AUTOMATIC POWER ADJUSTMENT TO ENERGY SUPPLY

Technical task:
The object of the technical innovation is to regulate the motor power released on the vehicle side with regard to a desired vehicle range and with reference to the vehicle-specific energy supply.

Initial situation:
When driving a vehicle, the driver has a massive influence on the energy consumption.
The stored energy (independent of whether combustion or electric drive) is sufficient for different ranges. Although it is currently possible to draw conclusions from the previous driving mode to the distance still to be reached, this range of prognosis can deviate significantly from the actually achievable range during actual driving.
The result: the vehicle must be refueling or recharged earlier than planned. In order to avoid this, the driver must constantly observe the load state or the tank contents in order to reach his planned goal.
With an e-bike you get about 60km far with a full battery. However, if you want to reach 80km, because the distance to be traveled is bigger, you are always busy to see if your own driving style fits the planned distance. This creates potential for more intelligent solutions.

Solution:
The user receives the distance to be reached from the user either via navigation or by entering the route.
The vehicle now calculates the maximum as well as the instantaneously ideal power itself and provides the driver accordingly only this disposition.
The driver no longer has to pay attention to his range permanently and reaches his entered target safely with the available stored energy.

Advantages:
- Increase user comfort (by eliminating the need to keep track of prognosis)
- Reduction of „range-of-reach“ in electric vehicles
- More accurate, more realistic, more predictable range forecasts are possible

Possible application:
- All vehicles, mainly battery-powered vehicles